

**SOLICITATION FOR FINANCIAL  
ASSISTANCE APPLICATIONS  
NO. DE-PS26-03NT41731**



**DEVELOPMENT OF NOVEL SENSORS FOR ULTRA HIGH  
TEMPERATURE FOSSIL FUEL APPLICATIONS**

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Information regarding this solicitation is available on the  
Department of Energy, Industry Interactive Procurement System (IIPS)  
web site at: <http://e-center.doe.gov>

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## **SECTION I - TECHNICAL REQUIREMENTS**

### **1.1 SUMMARY (JAN 2003)**

The Department of Energy (DOE), National Energy Technology Laboratory (NETL) is conducting this solicitation to competitively seek applications for research and technology development efforts to support new and/or innovative sensors for high temperature harsh environment applications. Applicant cost sharing is not required due to the basic and fundamental nature of the research under this solicitation. Nevertheless, Applicant cost sharing is highly encouraged.

### **1.2 BACKGROUND INFORMATION (JAN 2000)**

The Advanced Research (AR) Program within the Office of Coal and Environmental Systems at NETL is charted with bridging the gap between basic energy sciences and applied technology. The sensors portion of the AR Program and this solicitation are focused on this early stage of research and development. NETL's AR Program is leading the effort in innovative sensor development for fossil fuel applications including the power systems conceived under NETL's Vision 21 Program where real time monitoring, diagnostics and control is critical for the safe and efficient operation of the energy conversion systems. However, due to the harsh conditions, current instrumentation and sensor technology is inadequate for these systems. The lack of suitable on-line measurement technology is a motivating factor for seeking out new developments of a pre-competitive basic and fundamental nature in sensor technology.

### **1.3 SOLICITATION OBJECTIVES (MAR 2001)**

The specific objective of this solicitation is to seek out new fundamental approaches to sensor concepts, materials, design, and fabrication that have potential application in the harsh environment of the advanced fossil fuel-based energy production systems, such as high temperature, pressure, and corrosive conditions. The types of projects sought through this solicitation include laboratory and bench-scale testing as well as fundamental research that addresses the barriers associated with ultra-high temperature operation. Projects awarded through this solicitation will build upon ongoing nanotechnology research, advancements in materials, and developments in microsensor design.

Fundamental research proposed under this solicitation encompasses those efforts that develop the supporting, underlying, and essential data that permits the development of novel sensor technology for harsh environment applications. Fundamental research includes, but is not limited to, extensions of the basic sciences as well as applied research. This solicitation does not seek to support research on technologies where prototypes have been demonstrated or are ready for full-scale demonstration or commercialization. As a result, applications which are not fundamental in nature, or are near commercialization, will be considered outside the scope of the effort contemplated herein.

Specific research objectives for projects proposed under this solicitation include the following:

- Develop an understanding of the sensor mechanisms acquired by nano-scale design,
- Develop technology for fusion of high temperature materials and advanced sensors,
- Develop long term high temperature data for life prediction and reliability,
- Devise life assessment models and experimental verification,
- Obtain a quantitative description of the evolutionary processes that lead to failure and predict response of sensor materials in complex environments,
- Miniaturize sensors, and
- Explore self-contained sensor intelligence based on smart materials.<sup>(1)</sup>

<sup>(1)</sup>Smart materials may be defined as the materials that respond to environmental changes at optimal conditions and manifest their functions according to the changes. The generic term "smart materials" includes the materials and probes that can provide information on a coating or process material while in service. The information can be used via a suitable process control mechanism to assess remaining life as well as to regulate the operating conditions.

*Examples of smart materials are shape memory alloys, optical fiber hybrid composites, and piezoelectric hybrid composites.*

It is anticipated that the proposed project effort will consist of one (1) or two (2) phases similar to the following:

Phase I - Feasibility Concept Definition: (1) Perform engineering/scientific analysis on the proposed concept and establish preliminary specifications; (2) Perform preliminary testing and evaluation of the concept and experimental system to assess feasibility and evaluate results; (3) Prepare the Concept Development & Testing (CD&T) plan for Phase II based on the selected concept and associated analysis; and (4) Prepare/submit final Phase I Topical Report to DOE/NETL for consideration of continuance to Phase II.

Phase II – Concept Development or Research, Development, and Testing: (1) Execute CD&T plan, based on the preliminary plan developed in Phase I; (2) Perform design, fabrication, and testing to demonstrate feasibility and probability of success; (3) Evaluate the results of the CD&T and perform additional development, design and testing; (4) Where applicable, fabricate and test prototype systems; (5) Identify and develop pathways to formulating an integrated sensor system for use in fossil fuel applications; and (6) Prepare/submit final Project Report to DOE/NETL.

The estimated period of performance for all phases is thirty-six (36) months.

The intent of this procurement is to work towards demonstration of concepts at a scale that would allow commercial offerings in approximately ten (10) years. It is recognized that each Applicant may propose varying scopes of effort for one or more of the phases, and consequently, an Applicant is not required to perform all Phase I activities if significant work on Phase I type activities has been previously completed. If the Applicant proposes to initially proceed to Phase II efforts, information must be included in their application which demonstrates the merit of the previous research and reference to the results. For successful applicants proposing to Phase II only, the cost of work performed by the Applicant to satisfy the Phase I or II requirements prior to the execution of the resulting agreement will not be considered when calculating any proposed cost share. Due to the nature and objective of this solicitation, it is anticipated that a mixture of applications will be accepted with staggered beginning dates, and it is therefore anticipated that any applicant selected for award shall proceed on its own schedule, independent of any other application. The schedule will be based on the best estimate of the time it will take a team to complete the phased effort and address the solicitation objective.

## **SECTION II - CONDITIONS AND NOTICES**

### **2.1 APPLICANT ELIGIBILITY (MAY 2001)**

Any nonprofit or for-profit organization, university or other institution of higher education, or non-federal agency or entity is eligible to apply, unless otherwise restricted by the Simpson-Craig Amendment which is defined as follows:

Organizations which are described in section 501(c)(4) of the Internal Revenue Code of 1986 and engage in lobbying activities after December 31, 1995, shall not be eligible for the receipt of Federal Funds constituting an award, grant, or loan. Section 501(c)(4) of the Internal Revenue Code of 1986 covers:

“Civic leagues or organizations not organized for profit but operated exclusively for the promotion of social welfare, or local associations of employees, the membership of which is limited to the employees of a designated person or persons in a particular municipality, and the net earnings of which are devoted exclusively to charitable, educational or recreational purposes.”

Lobbying activities are defined broadly to include, among other things, contacts on behalf of an organization with specified employees of the Executive Branch and Congress with regard to Federal legislative, regulatory and program administrative matters.

Applicants that are seeking financial assistance under this solicitation, are subject to the eligibility requirements of Section 2306 of the Energy Policy Act of 1992 (EPAct).

In accordance with 10 CFR 600.502, a company shall be eligible to receive an award of financial assistance under a covered program only if DOE finds that--

- (a) Consistent with Sec. 600.503, the company's participation in a covered program would be in the economic interest of the United States; and
- (b) The company is either--
  - (1) A United States-owned company; or
  - (2) Incorporated or organized under the laws of any State and has a parent company which is incorporated or organized under the laws of a country which--
    - (I) Affords to the United States-owned companies opportunities, comparable to those afforded to any other company, to participate in any joint venture similar to those authorized under the Act;
    - (ii) Affords to United States-owned companies local investment opportunities comparable to those afforded to any other company; and
    - (iii) Affords adequate and effective protection for the intellectual property rights of United States-owned companies.

### **2.2 NUMBER AND TYPE OF AWARDS (JAN 2000)**

It is anticipated that there will be multiple awards resulting from this solicitation. However, the Government reserves the right to fund, in whole or in part, any, all, or none of the applications submitted in response to this solicitation and will award that number of financial assistance instruments which serves the public purpose and is in the best interest of the Government. The Government intends to use a cooperative agreement as the type of award instrument.

### **2.3 COST SHARING REQUIREMENTS (JAN 2003)**

Applicant cost sharing is not required due to the basic and fundamental nature of the research under this solicitation. Nevertheless, Applicant cost sharing is highly encouraged. Should the Applicant choose to propose cost sharing under an application, all cost sharing proposed must meet the requirements of 10 CFR 600.123 and 10 CFR 600.224. Allowable costs for cost sharing shall be in accordance with 10 CFR 600.127 and 10 CFR 600.222.

NOTE: It is DOE policy to require twenty (20) percent cost sharing as a prerequisite for the granting of an advance patent waiver.

### **2.4 AVAILABILITY OF FUNDS (AUG 1999)**

The anticipated Government funding per cooperative agreement under this solicitation is \$950,000 over all phases of the project. These amounts are contingent on the availability of funds and may be higher or lower depending on the dollars authorized and the type of project selected. This information is provided for estimating purposes only and in no way commits the Government.

### **2.5 PROJECT PERIOD (AUG 2000)**

The Government anticipates the project period for the subject awards to be thirty-six (36) months. Awards will have project and budget periods that are specific to the project and funding.

### **2.6 REPORTING REQUIREMENTS (FEB 2001)**

The Reporting Requirements identified in the model financial assistance agreement located at <http://www.netl.doe.gov/business/faapiaf/MODEL.PDF> are required to be submitted during performance of the award.

In addition to the standard reports identified in the model, the following reports will be incorporated in the resultant award:

(1) **Semi-Annual Technical Progress Report**

The body of the report should contain a full account of progress, problems encountered, plans for the next reporting period, and an assessment of the prospects for future progress.

The Technical Progress Report should include sufficient detail to allow the work to be reproduced by others. Results and reduced data shall be presented together with a discussion of the relevance of the findings. When experimental systems and/or procedures are being utilized for the first time, they shall be described in detail. This description shall contain detailed information on equipment and procedures utilized, as well as providing a rationale for their use. All data reduction and transformation methods shall be fully documented. For every fourth calendar quarter for quarterly reports or every second half year for semi-annual reports, the report should be expanded to provide for detailed information on the results of the past year, problems encountered, significant accomplishments, listing of publications, presentations, and approaches to be taken the following year.

Informational items in technical progress reports shall include:

Experimental Apparatus -- A comprehensive description, including dimensioned drawings or sketches, of the apparatus and associated diagnostic measurement equipment employed to perform the experimental research.

Experimental and Operating Data -- All experimental data acquired during the course of research including detailed characterization of the sample materials subjected to experimentation.

Data Reduction -- A complete description of the methods employed to transform raw measured data into a form usable for interpretation along with any assumptions or restrictions inherent in the method and the resultant reduced data.

Hypothesis and Conclusions -- Logic for drawing conclusions or developing hypotheses shall be clearly stated along with applicable assumptions or restrictions.

(2) Fact Sheets

The fact sheet is a short document used to communicate project information, status, accomplishments and issues. Fact sheets shall be updated annually with special-case updates (no more than four annually) as requested by the Contracting Officer's Representative (COR). The fact sheets shall be submitted in either MS Word or WordPerfect and in accordance with the following format:

**PROJECT TITLE**

**FACT SHEET**

I. PROJECT DESCRIPTION

- A. Project Goal Statement
- B. Objective(s)
- C. Background/Relevancy
- D. Period of Performance
- E. Project Summary
- F. Project Benefits
- G. Project photo or graphic (provide at project initiation, and when public dissemination would be beneficial.)

II. PROJECT PARTICIPANTS

- A. Identify Prime project participant and Point of Contact (name, address, phone number and E-mail)
- B. Identify all Subcontract Participants and Points of Contact

III. PROJECT COSTS

- A. DOE Costs
- B. Prime Cost Sharing
- C. Partner Cost Sharing, If Applicable

IV. MAJOR ACCOMPLISHMENTS SINCE THE BEGINNING OF THE PROJECT

- A. List them in chronological order with approximate dates (month/year).
- B. Each accomplishment should be bulletized or underlined with a short explanation (short paragraph) of it's significance, and benefit/impact, if applicable.



V. MAJOR ACTIVITIES PLANNED DURING THE NEXT 6 MONTHS

- A. Each planned activity should be bulletized or underlined with a short explanation (short paragraph) of its significance, and benefit/impact, if applicable.

VI. ISSUES

- A. Identify any concern worthy of upper management attention.

VII. ATTACHMENTS (IF WARRANTED)

- A. Schematic  
B. Project Schedule

(3) Monthly Project Highlight Reports

This report provides an informal concise narrative describing the current status of the effort. The report allows the Recipient to communicate developments, achievements, changes and problems. The Recipient enters a brief narrative discussion of the following topics: Approach changes; performance variances, accomplishments, or problems; open items; and status assessment and forecast. Each of these topics is addressed, as appropriate, for a given reporting period and the report is submitted to the Department of Energy (DOE) Contracting Officer's Representative (COR) periodically via e-mail, as required, during the life of the project. The report shall be submitted in either MS Word or WordPerfect in the following format:

- Agreement No.
- Reporting Period – Identify month and year of the reporting period.
- Completed Tasks – Identify projects tasks that were completed during the reporting period down to at least work breakdown structure (WBS) Level 2. Identify tasks by both the descriptive name and number.
- Key Milestone Update – Identify completion of key project milestones and modifications being considered or required down to at least work breakdown structure Level 2. Discuss lower WBS tasks when appropriate to communicate impacts to critical path and medium to high-risk project tasks.
- Discussion Topics – Identify issues that require DOE COR attention or action.
- Significant Accomplishments – In a short paragraph per accomplishment, identify achievement of noteworthy advancements in research, design, manufacture or commercialization activities of the project, and important breakthroughs that resolve critical science and technology risks or development barriers.
- Presentations & Publications – Identify briefing packages, press releases, articles, and papers planned and given that discuss the project.
- Site Visits – Identify site visits planned and given with high level corporate or government officials.
- Travel – Identify travel planned or completed to accomplish/manage project tasks.
- Inventions – Title of invention disclosures submitted, patent applications filed and patents issued (including patent number) during the reporting period.

## **2.7 APPLICATION DUE DATE (JAN 2003)**

Applications and amendments of applications must be received by April 2, 2003, not later than 4:00 PM Eastern Time. You are encouraged to transmit your application well before the deadline.

APPLICATIONS, OR APPLICATION FILES, THAT HAVE AN IIPS DATE/TIME STAMP LATER THAN THE DEADLINE WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD.

## **2.8 ANTICIPATED SELECTION AND AWARD DATES (AUG 1999)**

It is anticipated that selection and award(s) of applications submitted under this solicitation will be made in the Government's FY 2003.

## **2.9 CONTENT OF RESULTING AWARD (NOV 2000)**

Any agreement awarded as a result of this solicitation will contain the applicable terms and conditions found in the Model Financial Assistance Agreement located at the NETL Website located at:

<http://www.netl.doe.gov/business/faapiaf/MODEL.PDF>

Blank areas appearing in the model agreement indicated by "[ ]" will be completed after negotiations.

## **2.10 APPLICATION PREPARATION COSTS (DEC 1999)**

This solicitation does not obligate the Government to pay any costs incurred in the preparation and submission of applications, or in making necessary studies or designs for the preparation thereof or to acquire, or contract for any services.

## **2.11 COMMITMENT OF PUBLIC FUNDS (AUG 1999)**

The Contracting Officer is the only individual who can legally commit the Government to the expenditure of public funds in connection with the proposed award. Any other commitment, either explicit or implied, is invalid.

## **2.12 FALSE STATEMENTS (AUG 1999)**

Applications must set forth full, accurate, and complete information as required by this solicitation. The penalty for making false statements in applications is prescribed in 18 U.S.C. 1001.

## **2.13 CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER (CFDA) (DEC 2000)**

CFDA No. 81.089 - Fossil Energy Research and Development. The Applicant should put this CFDA number in Block 10 of the Standard Form 424, Application for Federal Assistance.

## **2.14 PARTICIPATION BY FEDERAL ORGANIZATIONS OR FEDERALLY AFFILIATED ORGANIZATIONS (JAN 2003)**

Applications submitted by, or on behalf of: (1) a Federal agency; (2) a Federally Funded Research and Development Center (FFRDC), or (3) a Department of Energy (DOE) Management and Operating (M&O) contractor will not be eligible for an award under this solicitation. However, these organizations may be proposed as team members subject to the following guidelines.

- a. For DOE M&O contractors, the proposed use of such entity must be authorized in writing by the DOE Contracting Officer or authorized designee responsible for managing the M&O Contractor. The Applicant must also provide any additional submission requirements identified in Section 3-Application Preparation Instructions of this solicitation. The DOE Contracting Officer responsible for managing the M&O

Contractor must determine that performance by the M&O contractor: (1) is consistent with or complementary to DOE missions and the missions of the facility to which the work is to be assigned; (2) will not adversely impact execution of assigned programs of the facility; (3) will not place the facility in direct competition with the domestic private sector; and (4) will not create a detrimental future burden on DOE resources. DOE will make award to the Applicant for the Applicant's portion of the effort. For the M&O effort, DOE shall fund the work, in whole or in part, through a DOE field work proposal to the M&O contractor. If DOE funds a portion of the M&O effort, then the Recipient is responsible for funding the remaining portion of the effort through a Cooperative Research & Development Agreement (CRADA) or a service agreement utilizing their own funds.

- b. For FFRDC contractors (other than a DOE M&O contractor), the proposed use of such entity must be consistent with the FFRDC's authority under its contract with the cognizant Federal agency and such work must not place the FFRDC in direct competition with the private sector. DOE shall fund the FFRDC work through an interagency agreement with the cognizant Federal agency.
- c. For Federal agencies, the proposed effort must not place the agency in direct competition with the private sector. DOE shall fund the other agency work through an interagency agreement.
- d. An Applicant's cost sharing requirement shall be based on the total cost of the project, including the Applicant's and the Federal agency, FFRDC and M&O's portions of the effort.
- e. The estimated total cost of the Federal agency, FFRDC or M&O contractor(s) work, in the aggregate, shall not exceed twenty-five (25) percent of the total estimated project cost.

#### **2.15 DETERMINATION OF RESPONSIBILITY (JAN 2001)**

DOE will evaluate the potential Recipient's responsibility before award. Responsibility determinations are focused on the Recipient's capability to manage and account for the funds, property and other assets provided and to perform satisfactorily under the terms of the award. If a potential Recipient is determined to not be in compliance or cannot or will not comply with generally applicable requirements (see 10 CFR Part 600, Appendix A), the contracting officer will find the Recipient not responsible and may either disapprove the application or use special restrictive conditions as a term of award.

#### **2.16 EVALUATION PERSONNEL (FEB 2003)**

Applications will be evaluated in accordance with the criteria set forth in Section IV of the solicitation. In conducting this evaluation, the Government may utilize assistance and advice from qualified personnel from other Federal Agencies, DOE Contractors, universities and industry. **APPLICANTS NOT WISHING TO HAVE THEIR APPLICATION EVALUATED BY NONFEDERAL PERSONNEL SHALL INDICATE THEIR "NON-CONSENT" ON THE NETL FORM 540.1-4, FINANCIAL ASSISTANCE CERTIFICATIONS AND ASSURANCES.** Applicants are further advised that DOE may be unable to consider an application withholding such consent.

When using personnel from other Federal agencies, DOE contractors, or other consultants to DOE in the evaluation of applications, DOE will obtain assurances from all evaluators that DOE's commitments are met relating to the proprietary nature of any application information.

#### **2.17 APPLICATION CLARIFICATION (JULY 1999)**

DOE reserves the right to require applications to be clarified or supplemented to the extent considered necessary either through additional written submissions or oral presentations.

**2.18 APPLICATION ACCEPTANCE PERIOD (AUG 1999)**

The minimum application acceptance period shall be 180 calendar days after the deadline(s) for receipt of applications.

**2.19 AWARD WITHOUT DISCUSSIONS (AUG 2000)**

Notice is given that award may be made after few or no exchanges, discussions or negotiations. Therefore, all applicants are advised to submit their most favorable application to the Government. The Government reserves the right, without qualification, to reject any or all applications received in response to this solicitation and to select any application, in whole or in part, as a basis for negotiation and or award.

**2.20 PRESUBMISSION REVIEW AND CLEARANCES (AUG 1999)**

Presubmission review under Executive Order 12372, "Intergovernmental Review of Federal Programs" is not required.

**2.21 LOANS NOT AVAILABLE (JULY 1999)**

Loans are not available under the DOE Minority Economic Impact (MEI) loan program, 10 CFR Part 800, to finance the cost of preparing a financial assistance application.

**2.22 52.227-6 ROYALTY INFORMATION. (APR 1984)**

(a) *Cost or charges for royalties.* When the response to this solicitation contains costs or charges for royalties totaling more than \$250, the following information shall be included in the response relating to each separate item of royalty or license fee:

- (1) Name and address of licensor.
- (2) Date of license agreement.
- (3) Patent numbers, patent application serial numbers, or other basis on which the royalty is payable.
- (4) Brief description, including any part or model numbers of each contract item or component on which the royalty is payable.
- (5) Percentage or dollar rate of royalty per unit.
- (6) Unit price of contract item.
- (7) Number of units.
- (8) Total dollar amount of royalties.

(b) *Copies of current licenses.* In addition, if specifically requested by the Contracting Officer before execution of the contract, the offeror shall furnish a copy of the current license agreement and an identification of applicable claims of specific patents.

**2.23 952.227-84 NOTICE OF RIGHT TO REQUEST PATENT WAIVER. (FEB 1998)**

Offerors have the right to request a waiver of all or any part of the rights of the United States in inventions conceived or first actually reduced to practice in performance of the contract that may be awarded as a result of this solicitation, in advance of or within 30 days after the effective date of contracting. Even where such advance waiver is not requested or the request is denied, the contractor will have a continuing right under the contract to request a

waiver of the rights of the United States in identified inventions, i.e., individual inventions conceived or first actually reduced to practice in performance of the contract. Domestic small businesses and domestic nonprofit organizations normally will receive the patent rights clause at DEAR 952.227-11 which permits the contractor to retain title to such inventions, except under contracts for management or operation of a Government-owned research and development facility or under contracts involving exceptional circumstances or intelligence activities. Therefore, small businesses and nonprofit organizations normally need not request a waiver. See the patent rights clause in the draft contract in this solicitation. See DOE's patent waiver regulations at 10 CFR part 784.

## **2.24 PERFORMANCE OF WORK IN THE UNITED STATES (FEB 2001)**

As a condition of award under this solicitation, applicants must agree that at least 75 percent of the direct labor cost for the project (including subcontractor labor) will be incurred in the United States unless the Applicant can demonstrate to the satisfaction of the DOE that the United States economic interest will be better served through a greater percentage of work performed outside the United States. For example, an Applicant may provide evidence that expertise to develop a technology exists only outside the United States, but that ultimate commercialization of the technology will result in substantial benefits to the United States such as improved electricity reliability, increased employment, increased exports of U.S.-manufactured products, etc..

## **2.25 NOTICE REGARDING ELIGIBLE/INELIGIBLE ACTIVITIES (AUG 1999)**

Eligible activities under this program include those which describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those which encourage or support political activities such as the collection and dissemination of information related to potential, planned or pending legislation.

## **2.26 LOCATE SOLICITATION, JOIN MAILING LIST, SUBMIT QUESTIONS, VIEW AMENDMENTS OR QUESTIONS AND ANSWERS (JAN 2003)**

If you would like to receive notifications related to this specific solicitation, submit questions on the content of the solicitation, or view amendments or questions and answers, you should locate this solicitation, and then follow the appropriate directions:

### **LOCATE SOLICITATION**

- Go to the IIPS website at <http://e-center.doe.gov> and click on "Browse Opportunities", or login in if you are registered.
- Click on any of the options for viewing the solicitation (whichever is easiest for you to locate this solicitation).
- Click on "Enter IIPS".
- Locate and click on the solicitation number to view "Synopsis and Solicitation Information".
- Click on hyperlink under "File Attachments" or "URL Links" to access the full solicitation or program notice.

### **JOIN SOLICITATION MAILING LIST.**

Click on the "Join Solicitation Mailing List" button at the top of the page, enter the required information, and submit. After you have joined the list, you should receive an email when a solicitation message is posted. Even though you have joined the mailing list, you should visit the solicitation page periodically to ensure that you have the latest information.

### **VIEW AMENDMENTS.**

Click on the yellow folder next to the solicitation number to view amendments and solicitation messages; or follow directions for "Locate Solicitation" to view a conformed copy of the solicitation (a line in the margin annotates changed sections).

#### SUBMIT QUESTION ON THE CONTENT OF THE SOLICITATION.

Click on the “Submit Question” button at the top and enter required information. You will receive an electronic notification that your question has been answered. DOE will try to respond to a question within 5 days, unless a similar question and answer have already been posted on the website.

#### VIEW QUESTIONS AND ANSWERS.

Click on the “View Questions” button at the top of the page. If no questions have been submitted and answered, a statement to that effect will appear at the top of the page. You should periodically check the IIPS website for new questions and answers.

### **SECTION III - APPLICATION PREPARATION AND SUBMISSION REQUIREMENTS**

#### **3.1 APPLICATION PREPARATION INSTRUCTIONS (JAN 2003)**

To aid in evaluation, applications shall be clearly and concisely written. All pages shall be appropriately numbered and identified with the name of the Applicant, the date, and the solicitation number to the extent practicable. Application files are to be formatted in one of the following software applications:

Microsoft Word 2002 (or earlier versions)  
Adobe Acrobat PDF  
Excel may be used for the Budget Narrative only

For consistency, the Applicant is instructed to use the file names specified below. Filename extensions shall clearly indicate the software application used for preparation of the documents (i.e., "xxx.doc" for Word files, "xxx.pdf" for Adobe Acrobat, etc.).

MANDATORY FILES	FILENAME
Application	424.---
Certifications and Assurances	540_1-4.---
Project Summary	540_1-2.---
Narrative (Technical)	TECHNICAL.---
Budget	4600.4.--- or 424a.---
Budget Narrative <b>(REQUIRED FOR PHASE I ONLY)</b>	BUDGET NARRATIVE.---
Attachment 1 - Resumes of Key Personnel, Publications, and/or Letters of Commitment, if applicable	ATTACHMENTS.---

**APPLICANTS MUST PROVIDE BUDGETARY ESTIMATES FOR PHASE II UTILIZING THE BUDGET FORMS IDENTIFIED ABOVE (HOWEVER, NO SUPPORTING BUDGET NARRATIVE FOR PHASE II IS REQUIRED).**

#### **1. APPLICATION FORMS/CERTIFICATIONS AND ASSURANCES/PROJECT SUMMARY**

The application form (SF 424), Certifications and Assurances (NETL F540.1-4), Project Summary Sheet (NETL F540.1-2), and Budget Form (SF 424A or DOE F 4600.4) are available on the NETL homepage at:

<http://www.netl.doe.gov/business/faapiaf/main.html>.

Instructions for completion of the forms are contained on the back of each form. Questions on completion of the forms should be addressed to the Contract Specialist. You must complete the required information, type the name of the individual authorized to sign the form in the signature block, and save the file with the designated name for that form.

#### **2. TECHNICAL NARRATIVE**

This file shall include a cover page indicating the solicitation number, name and address of the Applicant, point of contact, telephone/FAX number/E-Mail address, title of project, and date of application. The Technical Narrative

shall not exceed 25 pages (excluding the Cover Page, Table of Contents, and Statement of Project Objectives), double spaced, using a minimum 12 point font, 1" margins, and when printed will fit on size 8 ½" by 11" paper. Any pages in excess of the 25 page limitation for the Technical Narrative (excluding the Cover Page, Table of Contents, and Statement of Project Objectives), shall not be considered in the evaluation process.

The Technical Narrative will consist of the Applicant's outline addressing the technical and management aspects of the project, the Applicant's capabilities and what the Applicant will do to satisfy the requirements of the solicitation. Since the technical information contained in this section will be evaluated to determine such matters as understanding of the work to be performed, technical approach, and potential for completing the desired work, it should be specific and complete in every detail. The Technical Narrative should be practical and be prepared simply and economically, providing a straightforward, concise delineation of what it is the Applicant will do to satisfy the requirements of the solicitation.

To help facilitate the review process and to ensure the Applicant addresses all the review criteria, the Applicant shall use the following format when preparing the Technical Narrative. This format relates to the technical evaluation criteria found in Section IV.

A. Table of Contents

B. Technical Discussion

1. Scientific and Technical Merit (Criterion 1)

The Applicant shall provide a discussion which clearly delineates the overall quality, soundness, and reasonableness of the Applicant's proposed work based on the following:

- a. The purpose of the proposed work project and its objectives;
- b. The relationship of the proposed work to the DOE's goals and objectives for this solicitation;
- c. The current state of knowledge and technology for the proposed work;
- d. How the proposed work provides innovative approaches and solutions, thus advancing the current knowledge or technology for the solicitation objective being addressed; and
- e. The potential for the proposed work to contribute to a scientific or technical breakthrough in the solicitation objective being addressed.

2. Technical Approach/Statement of Project Objectives (Criterion 2)

The Applicant shall provide a clear description which describes the overall quality, soundness, and reasonableness of the Applicant's technical approach to fulfill the requirements of the proposed work based on the following:

- a. The goals and statement of project objectives which divides the project into the logical tasks and subtasks and includes a project schedule with technical milestones and required deliverables (see Section (C) below for discussion on how to prepare a Statement of Project Objectives); and, the labor requirements per task;
- b. The proposed travel including the purpose, number of trips, origin and destination, trip duration, and number of personnel; and
- c. The potential for any problems or significant delays that could affect the project products or schedule and mitigation strategies.

3. Technical and Management Capabilities (Criterion 3)

The Applicant shall provide a discussion which fully describes the qualifications and relative experience of proposed personnel to be assigned to the project, as well as the qualifications of all



participating organizations and individuals, including subcontractors and consultants, to execute and manage the proposed effort. Factors to be considered are:

- a. The credentials, capabilities, and experience (technical and managerial) of the key personnel and organizations critical to the success of the project;
- b. Any prior experience in managing projects of similar type, size and complexity;
- c. The project organization and structure, responsibilities and lines of authority, both technical and administrative, of the participating organizations and key personnel; and
- d. The type, quality, availability and appropriateness of facilities, equipment, and materials to be utilized in carrying out the proposed work.

C. Statement of Project Objectives

The Department of Energy's (DOE's), National Energy Technology Laboratory (NETL), uses a specific format for Statement of Project Objectives in its awards. In solicitations such as this one, where the Government does not provide a Statement of Project Objectives, the Applicant is to provide one, which the DOE will then use to generate the Statement of Project Objectives to be included in the award.

All applications must contain a single, detailed Statement of Project Objectives that addresses how the project objectives will be met. The Statement of Project Objectives must contain a clear, concise description of all activities to be completed during project performance and follow the structure discussed below. The Statement of Project Objectives may be released to the public by DOE in whole or in part at any time. It is therefore required that it shall not contain proprietary or confidential business information.

The Statement of Project Objectives must clearly describe the work to be performed in each phase. A detailed description of each task or activity proposed shall be provided. The level of detail should be adequate for direct incorporation into a cooperative agreement. The Statement of Project Objectives should be organized in a Work Breakdown Structure format, and must divide the project into logical tasks, subtasks, and labor requirements. The Statement of Project Objectives must include a project schedule with technical milestones and required deliverables.

The Statement of Project Objectives is generally less than ten (10) pages in total for the proposed work. Applicants shall prepare the Statement of Project Objectives in the following format:

TITLE OF WORK TO BE PERFORMED  
(Insert the title of work to be performed. Be concise and descriptive.)

A. OBJECTIVES

Include one paragraph on the overall objective(s) of the work. Also, include objective(s) for each phase of the work.

B. SCOPE OF WORK

This section should not exceed one-half page and should summarize the effort and approach to achieve the objective(s) of the work for each Phase.

C. TASKS TO BE PERFORMED

Tasks, concisely written, should be provided in a logical sequence and should be divided into the phases of the project. This section provides a brief summary of the planned approach to this project. This section will also provide a project schedule with technical milestones.

## PHASE I

Task 1.0 - (Title)

(Description)

Subtask 1.1 (Optional)

(Description)

Task 2.0 - (Title)

## PHASE II

Task 3.0 - (Title)

### D. DELIVERABLES

In this section, the Applicant shall briefly describe what the principal technical contents of the reports will be. For example, the principal contents could be the results of processed data, the results of analyses and tests, abstracts or papers submitted to technical conferences, or summaries of workshops. This section is intended to briefly summarize technical contents only. Please note the periodic, topical, and final reports shall be submitted in accordance with the attached "Federal Assistance Reporting Checklist" and the instructions accompanying the checklist. The checklist specifies the frequency, form, format, and the file name conventions for reporting, not the principal contents.

At a minimum, Recipients will be required to provide the following deliverables:

1. Semi-Annual Technical Progress Reports (See Clause 2.6 REPORTING REQUIREMENTS, Paragraph (1) for a description of the Semi-Annual Technical Progress Reports.)
2. Monthly Project Highlight Reports (See Clause 2.6 REPORTING REQUIREMENTS, Paragraph (2) for a description of the Monthly Project Highlight Reports.)
3. Factsheets (See Clause 2.6 REPORTING REQUIREMENTS, Paragraph (3) for a description of the Factsheets.)
4. Any Other Proposed Deliverables

### E. BRIEFINGS/TECHNICAL PRESENTATIONS

The Recipient shall prepare detailed briefings for presentation to the Contracting Officer's Representative (COR) at the COR's facility located in Pittsburgh, PA or Morgantown, WV. Briefings shall be given by the Recipient to explain the plans, progress, and results of the technical effort. A minimum of three (3) briefings will be completed - one kickoff briefing; one briefing prior to the completion of Phase I and the continuance into Phase II (if applicable); and, one prior to project completion.

### 3. BUDGET/BUDGET NARRATIVE

**BUDGET – THE DEPARTMENT OF ENERGY (DOE) FORM 4600.4 "FEDERAL ASSISTANCE BUDGET INFORMATION" OR THE STANDARD FORM (SF) 424a "BUDGET INFORMATION – NON-CONSTRUCTION PROGRAMS" SHALL BE COMPLETED FOR PHASE I AND PHASE II.**

**DETAILED SUPPORTING COST DATA IS ONLY REQUIRED FOR PHASE I, THEREFORE, THE FOLLOWING SECTION "BUDGET NARRATIVE" ONLY APPLIES TO PHASE I.**

**BUDGET NARRATIVE** - The following cost detail is required for the proposed cost elements. Failure to provide the detailed cost information as described in the instructions will result in an incomplete application. If a minimum cost share is required by this solicitation, the Applicant shall stipulate in the application the source and amount of cost sharing and the value of third party in-kind contributions proposed to meet the requirement. Additionally, teaming members and subcontractors are also required to submit the below information with their budgets.

**PERSONNEL** -- In support of the proposed personnel costs, provide a supplemental schedule that identifies the labor hours, labor rates, and cost by labor classification for each budget year. Also indicate the basis of the labor classification, number of hours, and labor rates. An example of the basis for the labor classification and number of hours could be past experience, engineering estimate, etc.. An example of the basis for the labor rates could be actual rates for the individuals who will perform the work or an average labor rate for the labor classification or a departmental average rate.

**FRINGE BENEFITS** -- Provide the method used to calculate the proposed rate amount. If a fringe benefit has been negotiated with, or approved by, a Federal Government agency, provide a copy of the agreement. If no rate agreement exists, provide a detailed list of the fringe benefit expenses (e.g., payroll taxes, insurances, holiday and vacation pay, bonuses) and their associated costs. Identify the base for allocating these fringe benefit expenses.

**TRAVEL** -- For each proposed trip, provide the purpose, number of travelers, travel origin and destination, number of days, and a breakdown of costs for airfare, lodging, meals, car rental, and incidentals. The basis for the airfare, lodging, meals, car rental, and incidentals must be provided, such as past trips, current quotations, Federal Travel Regulations, etc..

**EQUIPMENT** -- Provide an itemized list of each piece of equipment, its unit costs, and the basis for estimating the cost, for example, vendor quotes, catalog prices, prior invoices, etc..

**SUPPLIES** -- Provide an itemized list of supplies, identify the quantity of each item, its unit cost, and the basis for estimating the cost, for example, vendor quotes, catalog prices, prior invoices, etc..

#### **CONTRACTUAL --**

**Consultants** -- Provide the hourly or daily rate along with the basis for the rate. Furnish resumes or similar information regarding qualifications or experience. Provide at least two invoices reflecting hourly or daily rates charged to customers other than the Government. A statement signed by the consultant certifying his or her availability and salary must be provided. If travel or incidental expenses are to be charged, give the basis for these costs.

**Subcontractors** -- Identify each planned subcontractor and its total proposed costs. Each subcontractor's budget application and supporting budget narrative should be included as part of the Applicant's budget narrative. In addition, the Applicant shall provide the following information for each planned subcontract: a brief description of the work to be subcontracted; the number of quotes solicited and received; the cost or price analysis performed by the Applicant; names and addresses of the subcontractors tentatively selected and the basis for their selection; i.e., low bidder, delivery schedule, technical competence; type of contract and estimated cost and fee or profit; and, affiliation with the Applicant, if any.

**CONSTRUCTION** -- Provide detail of construction costs, if applicable.

**OTHER DIRECT COSTS** -- Provide an itemized list with costs for any other item proposed as a direct cost and state the basis for each proposed item.

**INDIRECT COSTS** -- If indirect rates have been negotiated with or approved by a Federal Government agency, please provide a copy of the latest rate agreement. If you do not have a current rate agreement, submit an indirect cost rate proposal which includes the major base and pool expense groupings by line item and dollar amount. In either case, provide a breakdown of the proposed indirect costs for each of your accounting periods included in the

proposal. Identify the rate and allocation base for each indirect cost, such as Overhead, General and Administrative, Facilities Capital Cost of Money, etc..

**COST SHARING** -- Identify the percentage level and source of cost sharing for the proposed project. Firm funding commitments are expected and documentation of those commitments must be included in the application. Additionally, the impact of DOE's cost share to the viability of the project must be addressed, to include justification for the need for Federal Funds.

**NOTE:** The total project cost (i.e., sum of Applicant and other participants plus DOE cost shares) must be reflected in each budget form.

A detailed estimate of the cash value (basis of and the nature, e.g., equipment, labor, facilities, cash, etc.) of all contributions to the project by each participant must be provided. Note that "cost-sharing" is not limited to cash investment. In-kind contributions (e.g., contribution of services or property; donated equipment, buildings, or land; donated supplies; or unrecovered indirect costs) incurred as part of the project may be considered as all or part of the cost share. The "cost-sharing" definition is contained in 10 CFR 600.30, 600.101, 600.123, 600.224, and OMB Circular A-110.

Fee or profit will not be paid to the recipients of financial assistance awards. Additionally, foregone fee or profit by the Applicant shall not be considered cost sharing under any resulting award. Reimbursement of actual costs will only include those costs that are allowable and allocable to the project as determined in accordance with the applicable cost principles prescribed in 10 CFR 600.127.

#### 4. ADDITIONAL FILE ATTACHMENTS

If applicable, this file shall contain resumes of key personnel, qualifications and experience of participating organizations, additional pertinent publications, letters of commitment, etc..

### **3.2 SUBMISSION REQUIREMENTS (JAN 2003)**

#### **ELECTRONIC SUBMISSION**

Applications must be submitted through the DOE Industry Interactive Procurement System (IIPS) at <http://e-center.doe.gov> in accordance with the instructions in this solicitation. **ONLY APPLICATIONS SUBMITTED THROUGH IIPS WILL BE CONSIDERED FOR AWARD.** Applications submitted through the U.S. Postal Service, facsimile, telegraphically, E-mail, courier companies, or hand-delivered hard copies will be considered non-responsive.

#### **ELECTRONIC SIGNATURE**

Applications submitted through IIPS constitute submission of electronically signed applications. The name of the authorized organizational representative (i.e., the administrative official, who, on behalf of the proposing organization, is authorized to make certifications and assurances or to commit the Applicant to the conduct of a project) must be typed in the signature block on the form to be accepted as an electronic signature. A scanned copy of the signed document is not required.

#### **IIPS REGISTRATION**

In order to submit an application, you must be authorized by the Applicant (i.e., institution or business entity) to submit an application on its behalf and you must register in IIPS. You are encouraged to register as soon as possible. You only have to register once to apply for any DOE award. To register:

- Go to the IIPS website at <http://e-center.doe.gov>.
- Click on the "Register" button on the left.

- Click on the box that says, “Check this box for Acquisitions greater than Simplified Acquisitions threshold or financial assistance” and then click on the radio button next to the “Register only” option.
- Click on “Proceed to Form.”
- Read the “Security Alert” and click on “Yes” to proceed.
- Read the “Notice of Disclaimer” and click on “I Accept.”
- Complete the Registration Form.
- Click on “Submit Registration.” You will receive an acknowledgment confirming receipt of your registration.

Then you will receive an email confirming successful registration. If you do not receive an email confirmation within one business day, contact the IIPS Help Desk at 1-800-683-0751 and select option 1, or send an email to HelpDesk@e-center.doe.gov.

Note the user name on your confirmation and your password for future reference. You must use this user name and password for any applications submitted in IIPS.

## SUBMIT APPLICATION

You are strongly encouraged to submit your application at least 24 hours before the deadline in order to have time to resolve any transmission problems. If you are registered in IIPS, you may use the IIPS test site at <http://doe-iips.pr.doe.gov/iips/busopor.nsf/TestSolicitation?OpenView&login> to practice submitting an application. You can also access the test site from the link provided at the top of each solicitation page.

To submit an application, complete the following steps:

### STEP 1 -- PREPARE APPLICATION

Prepare all of the files in accordance with the instructions in this solicitation prior to starting the transmission process. You should submit the entire application package in one IIPS session (i.e., do not logoff before all the files are attached).

### STEP 2 - LOCATE SOLICITATION AND CREATE APPLICATION

- Enter the IIPS website at <http://e-center.doe.gov>.
- Click on “Login” button on the left.
- Click on the radio button that says, “Industry Interactive Procurement System.”
- Enter your user name (as shown on your registration email confirmation) and password. (Note: These are case sensitive.)
- The “View Synopses and Solicitations as Sorted by....” screen will appear. Click on one of the choices and locate the solicitation.
- Click on the solicitation number and the Synopsis & Solicitation Information screen will appear.
- Click on “Create Application” (you may have to scroll to the right to locate the button) and complete the information on the Application Cover Page. Enter the project title and the principal investigator/project director, if any, in the “Subject” blank.

### STEP 3 --- ATTACH FILES AND SUBMIT APPLICATION

- Click on “Submit Cover Page & Attach Files”, complete information, and submit.
- Click on “Attach Application” link.
- Attach each file in the corresponding block on the page and then click “Submit.”
- IIPS will provide an acknowledgment.
- Click on the link on the acknowledgment to verify submission. It will take you to your submission.
- In order to verify successful transmission at a later date, click on the yellow folder beside the solicitation number. Your application should appear.

## QUESTIONS OR PROBLEMS WITH TRANSMISSION

View the “IIPS Frequently Asked Questions” by clicking on the “Help” button. You may also call 1-800-683-0751 and select option 1, or send an email to [IIPS\\_HelpDesk@e-center.doe.gov](mailto:IIPS_HelpDesk@e-center.doe.gov), for help with the IIPS system. If you have questions on the content of the solicitation, follow the directions for “Submit Question on the Content of the Solicitation.”

## IIPS USER GUIDE

Additional instructions are available in the IIPS User Guide. Click on the “help” button to access the guide.

### **3.3 REVISIONS, DELETIONS, AND WITHDRAWAL OF APPLICATIONS (JAN 2003)**

#### REMOVE APPLICATION OR APPLICATION FILE(S) FROM IIPS

To delete or withdraw an application or an application file(s), send an email to the IIPS Help Desk requesting the application or file(s), be removed. Be sure to identify your user name, the Applicant's name, and the subject, as shown on the cover page of the application.

#### SUBMIT REVISED APPLICATION

Follow the steps in “Submit Application or Pre-application” to submit a revised application (i.e. cover page and all required files).

#### SUBMIT REVISED FILE

After the Help Desk has removed the requested file from your application:

- Locate the solicitation.
- Click on the yellow folder next to the solicitation number.
- Click on the cover page of your submission, click on the “Attach Application” link, and attach the revised file. In the event that two files, with identical names, are included in an application, the file with the latest transmission date/time stamp will be considered for review, if it is received prior to the deadline.

### **3.4 UNNECESSARILY ELABORATE APPLICATIONS AND FILE SIZE LIMITATIONS (JAN 2003)**

Unnecessarily elaborate applications beyond those sufficient to present a complete and effective response to this solicitation are not desired. Elaborate art work, graphics and pictures may increase the document's file size. It is suggested that in preparing your application that you create files less than 5 MB. However, this file size may not be appropriate in all situations. As the nature of the application may create large files, applicants may wish to use “Zip” file compression software such as WinZip. Using this compression software will diminish the file size, thus reducing the time needed to upload and download an application.

### **3.5 TREATMENT OF PROPRIETARY INFORMATION (AUG 1999)**

An application may include technical data and other data, including trade secrets and/or privileged or confidential commercial or financial information, which the Applicant does not want disclosed to the public or used by the Government for any purpose other than application evaluation. To protect such data, the Applicant should specifically identify each page including each line or paragraph thereof containing the data to be protected and mark the cover sheet of the application with the following Notice as well as referring to the Notice on each page to which the Notice applies:

#### NOTICE OF RESTRICTION ON DISCLOSURE AND USE OF DATA

The data contained in pages [ ] of this application have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for evaluation purposes, provided that if this Applicant receives an award as a result of or in connection with the submission of this application, DOE shall have the right to use or disclose the data therein to the extent provided in the award. This restriction does not limit the Government's right to use or disclose data obtained without restriction from any source, including the Applicant.

DOE shall not refuse to consider an application solely on the basis that the application is restrictively marked.

## **SECTION IV - EVALUATION AND SELECTION**

### **4.1 INTRODUCTION (MAY 2000)**

This section contains the evaluation approach as well as the individual criteria to be used in the evaluation of applications.

### **4.2 GENERAL (JULY 1999)**

It is the policy of DOE that any financial assistance be awarded through a merit-based selection process which means a thorough, consistent and independent examination of applications based on pre-established criteria by persons knowledgeable in the field of the proposed project.

### **4.3 PRELIMINARY REVIEW (JAN 2003)**

Prior to a comprehensive evaluation, applications will undergo an initial review to determine whether the information required by the solicitation has been submitted and is properly completed. Applications will be reviewed for relevance to the Advanced Research Program and for responsiveness to the requirements of the solicitation. Applications will be reviewed to assess the Applicant's eligibility under the lobbying, EPAct and Simpson-Craig Amendment requirements. Failure to successfully meet any one of these preliminary review criteria may result in the elimination of the application and no further consideration in the Comprehensive Evaluation. In the event that an application is eliminated, a notice will be sent to the Applicant stating the reason(s) that the application will not be considered for financial assistance under this solicitation.

### **4.4 COMPREHENSIVE EVALUATION (AUG 1999)**

Applications passing the preliminary evaluation shall be subject to a comprehensive evaluation in accordance with the technical evaluation criteria listed in this section.

The technical evaluation is conducted to determine the technical merits of the application with regard to the potential success of the project as well as future commercial applications. Comprehensive evaluation results in a numerical score for each application against each of the technical evaluation criteria.

The Environmental Evaluation, which is not point scored, is conducted to determine the completeness of the Environmental Questionnaire, and to assess the Applicant's awareness of environmental requirements for mitigating project related environmental risks.

The budget evaluation, which is not point scored, is conducted to determine the completeness of the cost estimate, appropriateness and reasonableness of the cost, and to assess the Applicant's understanding of the Statement of Project Objectives.

### **4.5 TECHNICAL EVALUATION CRITERIA (AUG 1999)**

Technical merit will be evaluated and scored in accordance with the criteria and weights listed below:

#### **A. Criterion 1 (45%) - Scientific and Technical Merit**

The application will be evaluated to determine the overall technical merit of the proposed concept and the ability of the project to achieve the objectives of the solicitation. The application will be evaluated on the overall quality, soundness, and reasonableness of the Applicant's proposed work, including the adequacy and appropriateness of the following:



- (1) The purpose of the proposed work project and its objectives;
- (2) The relationship of the proposed work to the DOE's goals and objectives for this solicitation;
- (3) The current state of knowledge and technology for the proposed work;
- (4) How the proposed work provides innovative approaches and solutions, thus advancing the current knowledge or technology for the solicitation objective being addressed; and
- (5) The potential for the proposed work to contribute to a scientific or technical breakthrough in the solicitation objective being addressed.

**B. Criterion 2 (40%) - Technical Approach/Statement of Project Objectives**

The application will be evaluated to determine the overall quality, soundness, and reasonableness of the Applicant's technical approach to fulfill the requirements of the proposed work, including the adequacy of the following:

- (1) The goals and Statement of Project Objectives which divides the project into the logical tasks and subtasks, and includes a project schedule with technical milestones and required deliverables (see Clause 3.1 "APPLICATION PREPARATION INSTRUCTIONS" Section (C) for instructions on preparing the Statement of Project Objectives). The labor requirements per task shall also be evaluated;
- (2) The proposed travel including the purpose, number of trips, origin and destination, trip duration, and number of personnel; and
- (3) The potential for any problems or significant delays that could affect the project products or schedule and mitigation strategies.

**C. Criterion 3 (15%) - Technical and Management Capabilities**

The demonstrated qualifications and relative experience of proposed personnel to be assigned to the project, as well as the qualifications of all participating organizations and individuals, including subcontractors and consultants, to execute and manage the proposed effort will be considered, as well as the adequacy of the following factors:

- (1) The credentials, capabilities, and experience (technical and managerial) of the key personnel and organizations critical to the success of the project;
- (2) Prior experience in managing projects of similar type, size and complexity;
- (3) The project organization and structure, responsibilities and lines of authority, both technical and administrative, of the participating organizations and key personnel; and
- (4) The type, quality, availability and appropriateness of facilities, equipment, and materials to be utilized in carrying out the proposed work.

**4.6 BUDGET EVALUATION CRITERIA (JULY 1999)**

The budget information will be evaluated in order to:

- (a) ensure that all work elements included in the Statement of Project Objectives have associated costs, and that those cost appear appropriate and reasonable for the effort proposed;
- (b) assess the Applicant's understanding of the Statement of Project Objectives; and
- (c) determine the level of any verifiable cost sharing.

**4.7 RELATIVE ORDER OF IMPORTANCE OF EVALUATION CRITERIA (JAN 2003)**

The Technical Evaluation is more important than the Budget and Environmental Evaluations, however, the Budget and Environmental Evaluations shall be considered in making the selection decision

#### **4.8 APPLICATION OF PROGRAM POLICY FACTORS (NOV 2000)**

These factors, while not indicators of the application's merit, e.g., technical excellence, cost, Applicant's ability, etc., may be essential to the process of selecting the application(s) that, individually or collectively, will best achieve the program objectives. Such factors are often beyond the control of the Applicant. Applicants should recognize that some very good applications may not receive an award because they do not fit within a mix of projects which maximizes the probability of achieving the DOE's overall research and development objectives. Therefore, the following Program Policy Factors may be used by the Source Selection Authority (SSA) to assist in determining which of the ranked application(s) shall receive DOE funding support.

1. Desirability to select a project(s) for award of less technical merit than another project(s), if such a selection will optimize use of available funds by allowing more projects to be supported while not being detrimental to the overall objectives of the program.
2. Desirability to select for award a group of projects which represents a diversity of technical approaches and methods.
3. Desirability to support complementary and/or duplicative efforts or projects, which, when taken together, will best achieve the research goals and objectives.
4. Desirability to select for award different kinds and sizes of organizations in order to provide a balanced programmatic effort and a variety of different technical perspectives;

The above factors will be independently considered by the SSA in determining the optimum mix of applications that will be selected for support. These policy factors will provide the SSA with the capability of developing, from the competitive solicitation, a broad involvement of organizations and organizational ideas, which both enhance the overall technology research effort and upgrade the program content to meet the goals of the DOE.

#### **4.9 BASIS FOR SELECTION AND AWARD (MAY 2000)**

The Department of Energy anticipates the award of one or more financial assistance instruments to those applicants whose applications are determined to be in the best interest of the Department in achieving the program objectives set forth in this solicitation. Selection of an application by the Department will be achieved through a process of evaluating and comparing the relative merits of the Applicant's complete applications, in accordance with all of the evaluation factors set forth in this section.

This process reflects the Department's desire to accept an application based on its potential in best achieving program objectives, rather than solely on evaluated technical merit or cost. Accordingly, the Department of Energy may select for an award all, none, or any number or part, of an application, based on its decision as to which meritorious applications best achieve the program objectives set forth in this solicitation.

It is important for applicants to note that selection for negotiations will be made entirely on the basis of applications submitted. Applications should, therefore, address specifically the factors mentioned in the evaluation criteria, and not depend upon reviewers' background knowledge.